

REMARKS

Claims 1-10 are pending in the application. Claims 1-10 are rejected.

An Examiner interview was conducted on December 19, 2002. A CPA has been filed so the Examiner may consider the new and amended claims.

The claimed invention recites a first and second synchronized word detecting windows. The second synchronized word detecting windows within the same time period as the first synchronized word detecting windows. As shown in Fig. 2, the second synchronized word detecting window (AP2) covers a position of the synchronized word within the first synchronized word detecting window (AP1). The position of the second synchronized word detecting window is reset as related to the first synchronized word detecting window under a predetermined condition. This is described in the specification, for example, page 8, line 23 to page 9, line 18. Predetermined conditions are recited in dependent claims 3-8.

Claims 1-3 and 8-10 are rejected under 35 U.S.C. § 102(e) as being anticipated by Ishikawa (U.S. 6,154,506).

It is respectfully submitted that Applicant's claim 1, 9 and 10 recite features not shown in the cited reference:

a second synchronized word detecting window, which covers the position of the synchronized word and is within the same time period as the first synchronized word-protecting window.

Fig. 5 of Ishikawa explains how a time window is shifted according to a period, during which a received signal exceeds a threshold level. Ishikawa shows successive windows in successive time periods such as T_k , T_{k+1} , and T_{k+2} , etc. Col. 6, lines 58-67 describes the next

window is shifted based on the sampling levels within the time period of the previous window. There is no description of the first window and the second window within the time period of the first window.

Ishikawa explains in col. 3, lines 25-45 the step of detecting a sampling duration. The sampling duration within the window is the length of time the signal is above a certain threshold. Detecting the sampling duration is different from applicant's generating the second synchronized word detecting window and detecting the synchronized word in the first or second window.

Additionally it is respectfully submitted the cited reference does not reset the position of the second synchronized word detecting window as related to the first synchronized word detecting window. The reference does describe adjusting the respective time window centers on successive windows relative to the center sampling point. Which is a center sampling point among a plurality of sampling points with sampling levels higher than a threshold level ... (col. 5, lines 58-64).

In contrast applicant claims: resetting the position of the second synchronized word detecting window as related to the first synchronized word detecting window under a predetermined condition. The second synchronized word detecting window is within the first window.

In summary, Fig. 5 of Ishikawa explains how a time window is shifted according to a period, during which a received signal exceeds a threshold level. Namely, in the system of Ishikawa, the time window is shifted so that the center of the time window corresponds to the center of the period during which the received signal exceeds a threshold level at a previous detecting timing.

In contrast to applicant's claimed invention, Ishikawa does not teach nor suggest a second synchronized word detecting window within the first synchronized word detecting window. Even if the period during which the received signal exceeds a threshold level is considered as related to the second synchronized word detecting window, the position cannot be reset relative to the first window. Ishikawa teaches opposite applicant because the position of the first window is moved depending upon the detecting of the received signal, this teaches away from applicant's claimed invention.

With regard to claim 3, the predetermined condition is the bit error rate of the synchronized word is more than a predetermined value. There is no description in the cited reference of a bit error rate of the synchronized word when the synchronized word is formed of plural bits.

Claims 4, 5, 6 and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishikawa as applied to claim 1 and further in view of Petch with regard to claims 5 and 7, and further in view of Mowbray with regard to claim 6, and further in view of Hosford with regard to claim 4.

With regard to claim 5, the combination of cited art does not teach reset the position ... when an average amount of phase difference in a number of frames is more than a predetermined value. The prior art teaches changing the timing depending upon which window the timing pulse fall into. But the prior art is silent with regard to an average amount of phase difference in a number of frames.

For at least the foregoing reasons it is respectfully requested the rejection of claims 1-10 be withdrawn.

With regard to claim 10 there is no description of

a synchronized word detector for detecting a synchronized word present in a received signal within the first synchronized word detecting window and outputting a synchronized word detecting pulse;

a second window generator for generating a second synchronized word detecting window, which covers the position of the synchronized word detected by the synchronized word detector and is within the first synchronized word detecting window;

a pulse generator for outputting a detecting pulse according to an AND condition of the synchronized word detecting pulse and the second synchronized word detecting window; and

a register for resetting the position of the second synchronized word detecting window as related to the first synchronized word detecting window under a predetermined condition.

Claim 11 is newly added for consideration. Claim 11 is based on the original disclosure and no new material is added. Claim 11 describes:

detecting the synchronized word in a second synchronized word detecting window, which is narrower than the first synchronized word detecting window;

shifting position of the second synchronized word detecting window; and

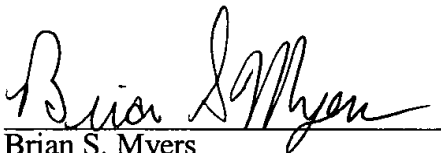
detecting a next synchronized word in the shifted second synchronized word detecting window.

Claim 11 is different from the prior art because the synchronized word is detected in the first and second synchronized word detecting window and the second synchronized word detecting window is narrower than the first synchronized word detecting window.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,


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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Please amend the claims as follows:

1.(amended) A synchronization protecting and setting system for signals received in a radio base station comprising:

a first means for generating a first synchronized word detecting window, which covers a position of a synchronized word provided in a reception signal received at the radio base station;

a second means for generating a second synchronized word detecting window, which covers the position of the synchronized word and is within the same time period as the first synchronized word detecting window;

a means for detecting the synchronized word in the first or second synchronized word detecting window; and

a control means for resetting the position of the second synchronized word detecting window as related to the first synchronized word detecting window under a predetermined condition.

9.(amended) A synchronization protecting and setting method for signals received in a radio base station comprising the steps of:

generating a first synchronized word detecting window, which covers a position of a synchronized word provided in a reception signal received at the radio base station;

generating a second synchronized word detecting window, which covers the position of the synchronized word and is within the same time period as the first synchronized word detecting window;

detecting the synchronized word in the first or second synchronized word detecting window; and

resetting the position of the second synchronized word detecting window as related to the first synchronized word detecting window under a predetermined condition.

10.(amended) A synchronization apparatus provided in a radio base station comprising:

a first window generator for generating a first synchronized word detecting window, which covers a position of a synchronized word provided in a reception signal received at the radio base station;

a synchronized word detector for detecting a synchronized word present in a received signal within the first synchronized word detecting window and outputting a synchronized word detecting pulse;

a second window generator for generating a second synchronized word detecting window, which covers the position of the synchronized word detected by the synchronized word detector as is within the same time period as the first synchronized word detecting window;

a pulse generator for outputting a detecting pulse according to an AND condition of the synchronized word detecting pulse and the second synchronized word detecting window; and

a register for resetting the position of the second synchronized word detecting window as related to the first synchronized word detecting window under a predetermined condition.